AMENDMENTS TO THE CLAIMS

Listing of Claims:

1.   (Currently Amended) A method for remotely monitoring and diagnosing operations of a machine, the method comprising:

    detecting signals of one or more of the machine's operating and condition parameters;

    comparing the detected signals to a signal model maintained locally with respect to the machine's location and identifying any anomalies in the detected signals compared to the signal model;

    transmitting information describing each anomaly to a ~~location remote~~ first computing device located remotely from the machine;

    diagnosing ~~at the remote location~~ the information describing the anomaly, where the ~~diagnosis includes~~ diagnosing comprises:

        an initial analysis of the information by diagnostic tools maintained at the ~~remote location~~ first computing device,

        a subsequent analysis of the information by diagnostic tools maintained ~~elsewhere~~ at a peer computing device located remotely from the first computing device if the initial analysis fails to provide a diagnosis, and

        a final analysis by a team of humans aided by a collaborative environment if the initial and subsequent analyses fail to provide a diagnosis; and

    reporting the diagnosis of the anomaly to a location capable of attending to repair of the machine.

2.   (Original) The method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the step of detecting signals of machine operating and condition parameters includes continuously monitoring at least one of the operating parameters and the condition parameters.

3.   (Original) The method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the signal model is a statistical model based on an initial collection of the detected signals.

4.   (Original) The method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the detected signals are derived from a plurality of sensors, the method including the steps of:

      identifying a failed sensor;

      regenerating the signal model based on remaining sensors;

      monitoring the machine based on the remaining sensors and the signal model until the failed sensor is repaired or replaced.

5.   (Previously Presented) The method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the detected signals are derived from a plurality of sensors, the method including the step of generating a sensor replacement signal if the identified anomaly is based on a detected signal from a single sensor such that the replacement signal is substituted into the detected signals as a replacement for the detected signal from the single sensor and the step of comparing includes the step of comparing the detected signals containing the replacement signal to the signal model.

6.   (Original) The method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 including the step of adding the diagnosis to the diagnostic tools maintained at the remote location if the diagnosis is provided by one of the diagnostic tools maintained elsewhere and the team of humans.

7-19.   (Cancelled)

20.   (Currently Amended) A method for remotely monitoring and diagnosing operations of a
machine, the method comprising:

        detecting signals of one or more of the machine's operating and condition
parameters;

        comparing the detected signals to a signal model maintained locally with respect
to the machine's location and identifying whether or not the detected signals conform to
the signal model;

        if the detected signals do not conform to the signal model, then informing a
~~location remote~~ first computing device located remotely from the machine of an anomaly;

        diagnosing ~~at the remote location~~ the information describing the anomaly, where
the ~~diagnosis includes~~ diagnosing comprises:

                an initial analysis of the information by diagnostic tools maintained at the
        ~~remote location~~ first computing device,

                a subsequent analysis of the information by diagnostic tools maintained
        ~~elsewhere~~ at a peer computing device located remotely from the first computing
        device if the initial analysis fails to provide a diagnosis, and

                a final analysis by a team of humans aided by a collaborative environment
        if the initial and subsequent analyses fail to provide a diagnosis; and

        reporting the diagnosis of the anomaly to a location capable of attending to repair
of the machine.